Permutation & Combination-02

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Instructor, P2A

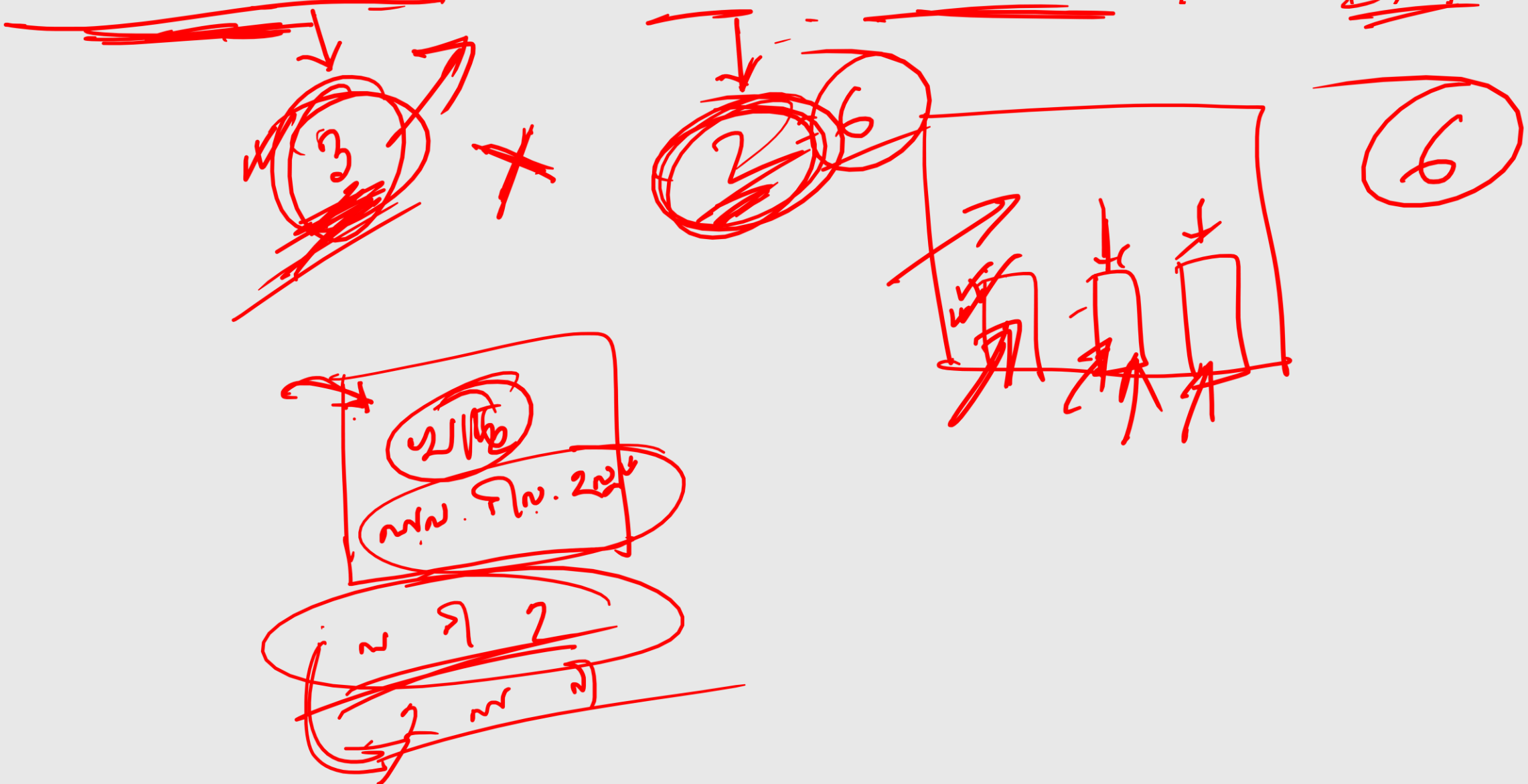
$${}^{5}P_{3} = 5 \times 4 \times 3$$

$${}^{5}C_{3} = \frac{5 \times 4 \times 3}{3 \times 2 \times 1}$$

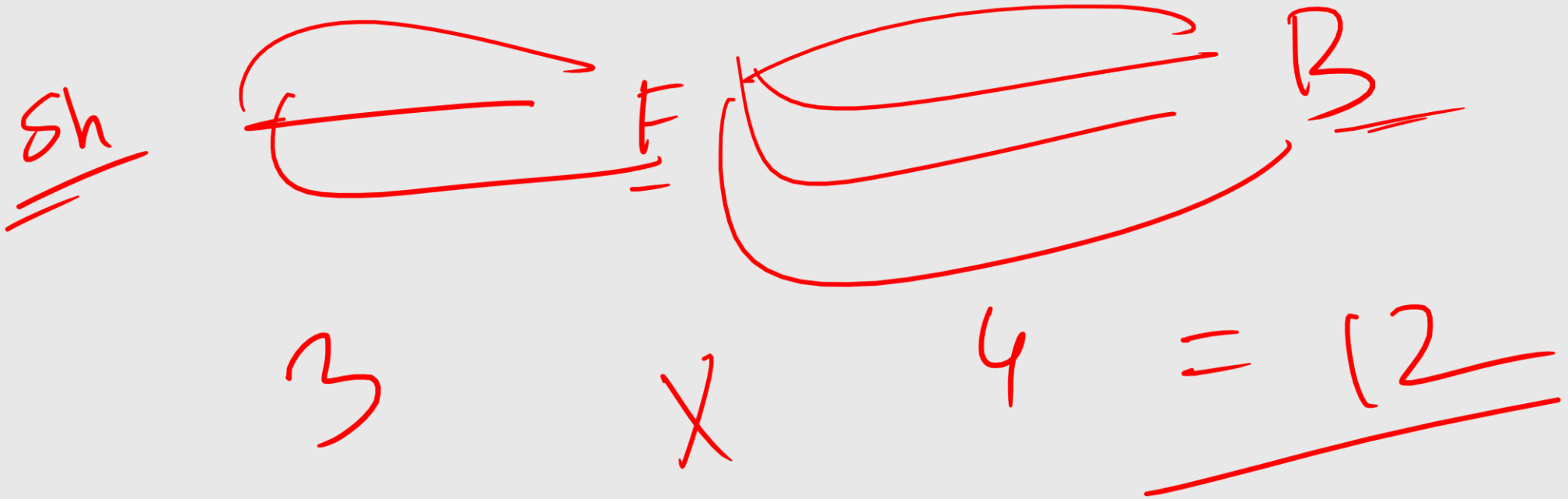
$${}^{5}C_{3} = {}^{5}C_{2}$$

$${}^{100}C_{97} = {}^{100}C_{3}$$

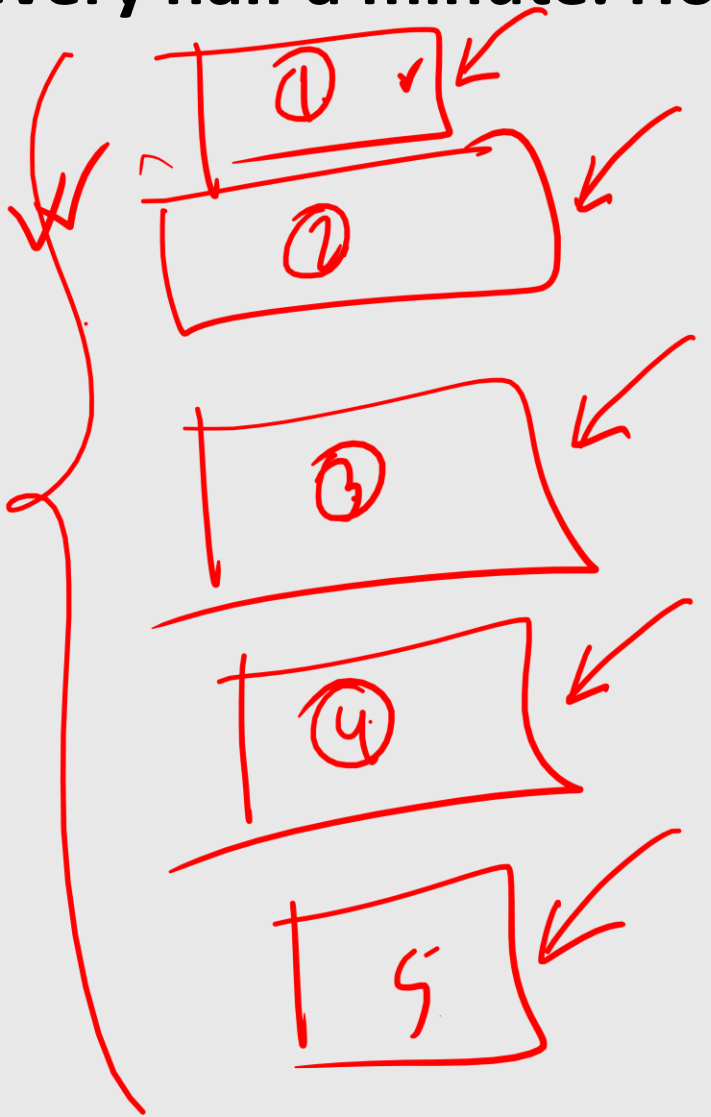
There are 3 doors to a lecture room. In how many ways can a lecturer enter the room from one door and leave from another door? *[Comb Bank (SO)-23]*

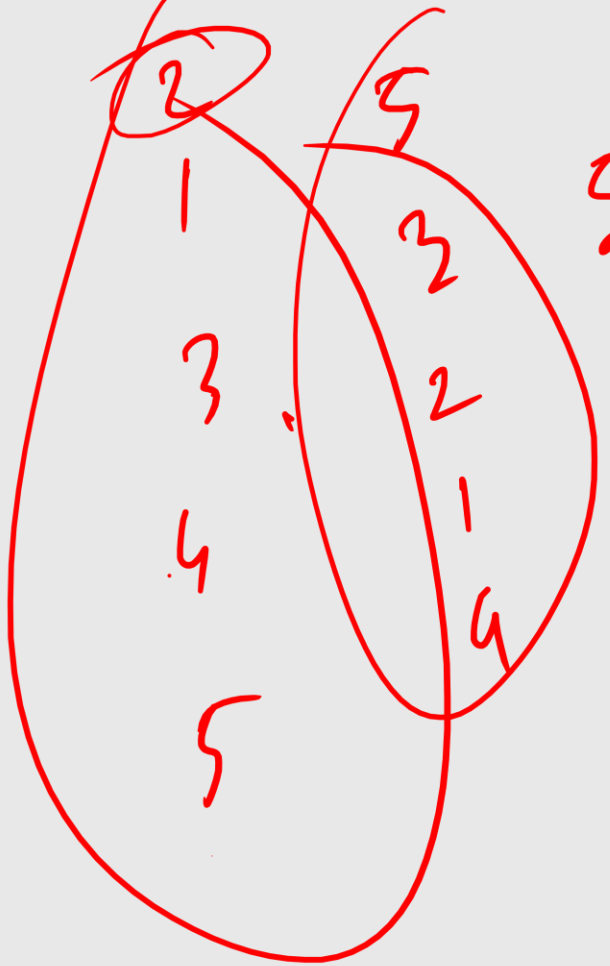


There are three different roads from Shabag to Farmgate and 4 different roads from Farmgate to Banani. How many different routes are there from Shabag to Banani which go through Farmgate? *[SBPL (PO)-13]*



In your bookshelf, you have five favorite books. If you decide to arrange these five books in every possible combination and moved just one book in every half a minute. How much time it will take you to arrange? *[Sonali (Cash)-19]*





$^5P_5 = 15$

$= 120$

$120 \times \frac{1}{2} = 60m$

How many ways the letters of the word 'BANKS' can be arranged?

[Comb (Cash) -24 (21 based)

B A N K S

$^5P_5 = 5 \times 4 \times 3 \times 2 \times 1 = 120$

How many 3 letters words can be formed using the letters of the words HEXAGON?

HEX

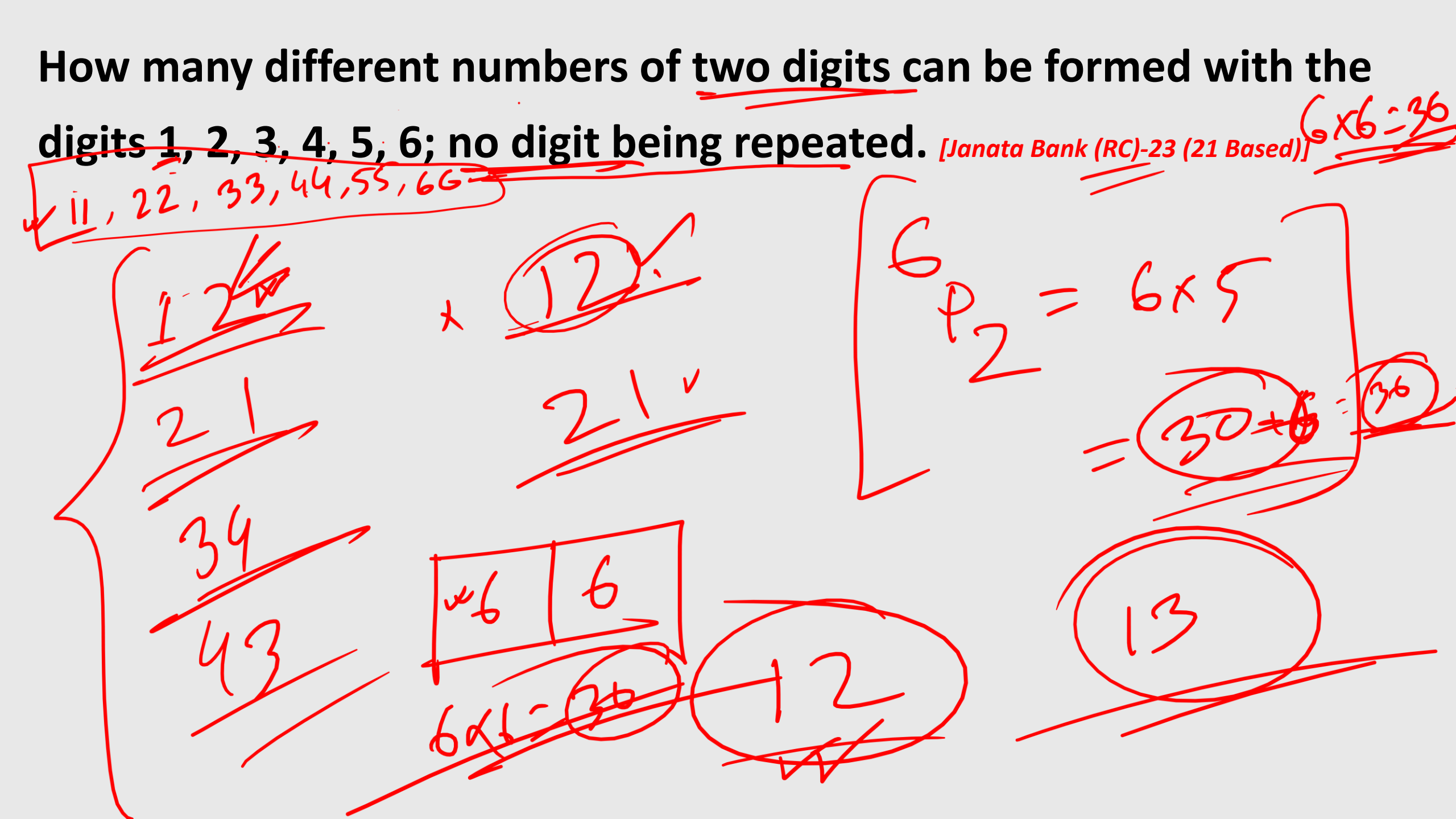
EXH

XEH

$$^{7}P_{3} = 7 \times 6 \times 5$$

$$= 210$$

How many different numbers of two digits can be formed with the digits 1, 2, 3, 4, 5, 6; no digit being repeated. *[Janata Bank (RC)-23 (21 Based)]*



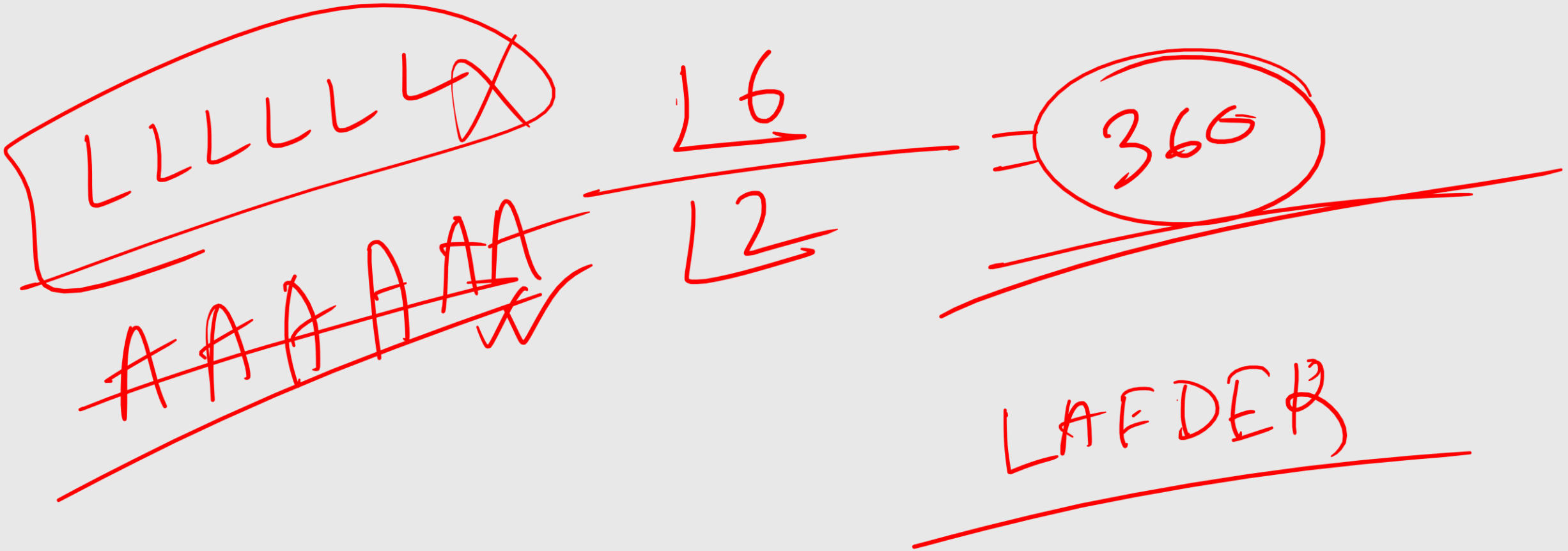
$^6C_2 \times 2!$

$^6C_1 \times {}^5C_1$ ✗

$$\frac{6 \times 5}{1 \times 2} \times 2 \times 1 = 30$$

In how many ways can the letters of the word 'LEADER' be arranged?

[Rupali Bank (Off) 2013]

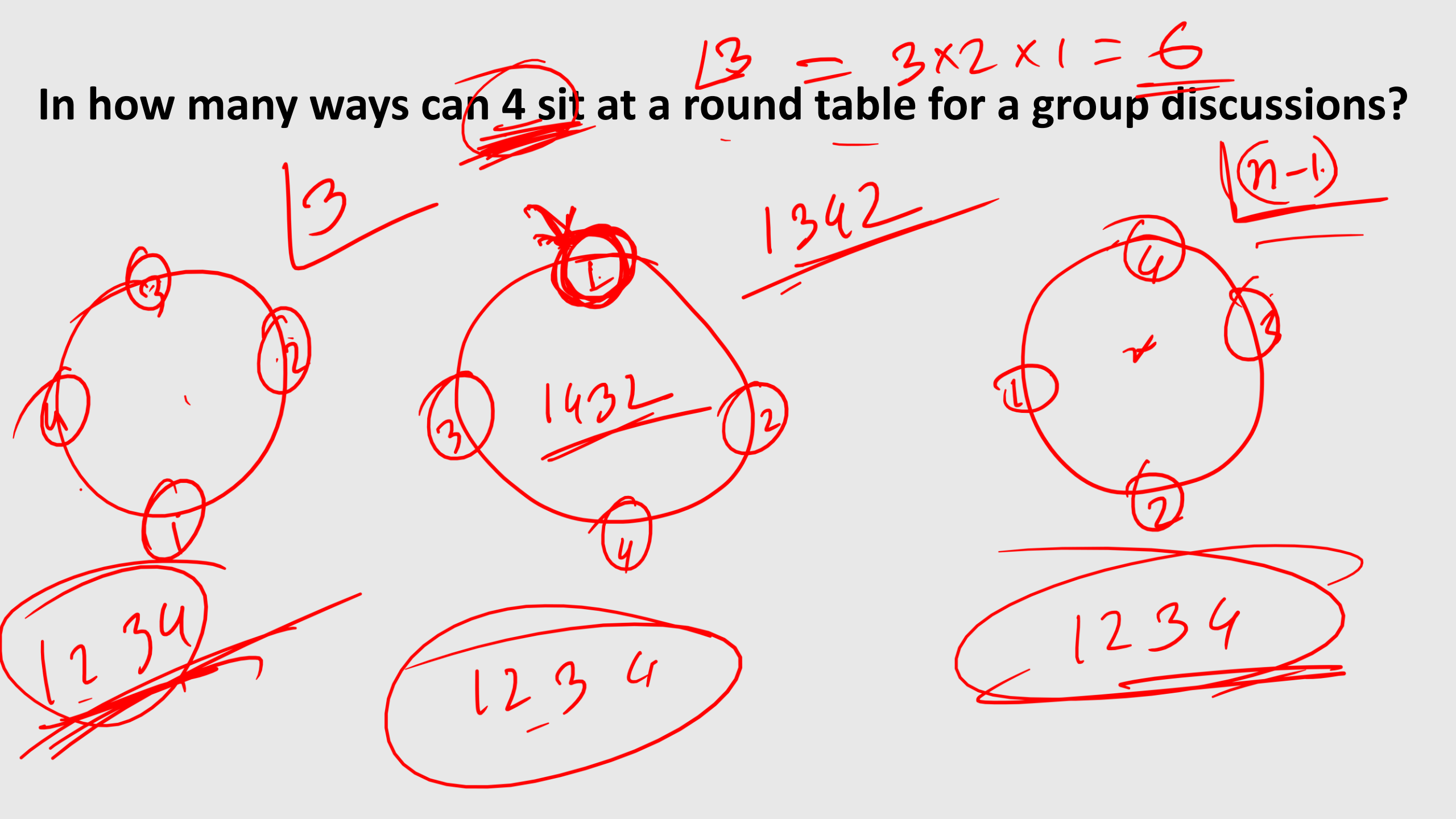


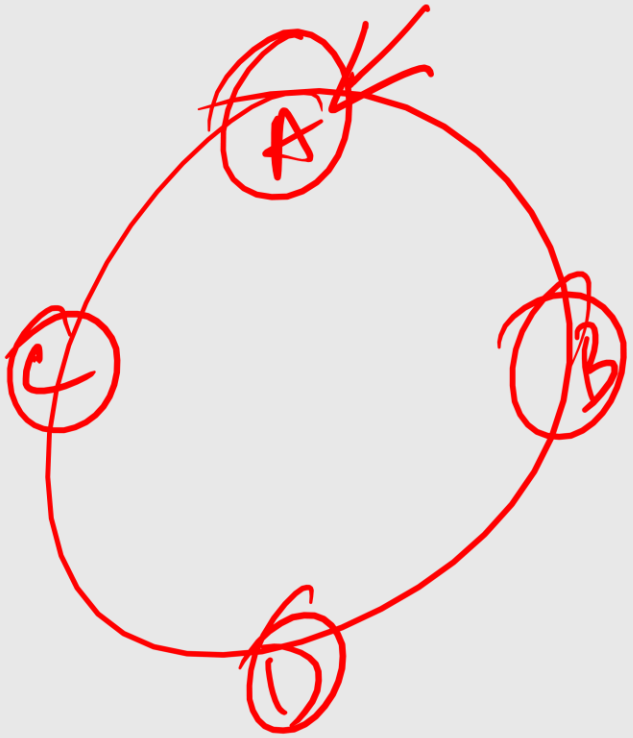
How many different six-digit numbers can be formed using all of the following digits 3, 3, 4, 4, 4, 5? *[BB (AD) 12]*

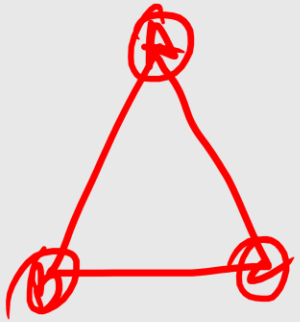
$$\frac{6!}{2! \times 3!}$$

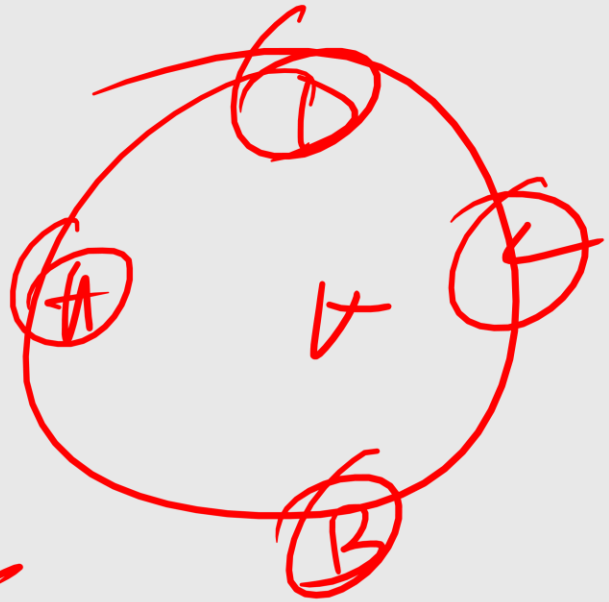
$$= \frac{6 \times 5 \times 4 \times 3!}{2 \times 3!} = 60$$

In how many ways can 4 sit at a round table for a group discussions?









ACDB

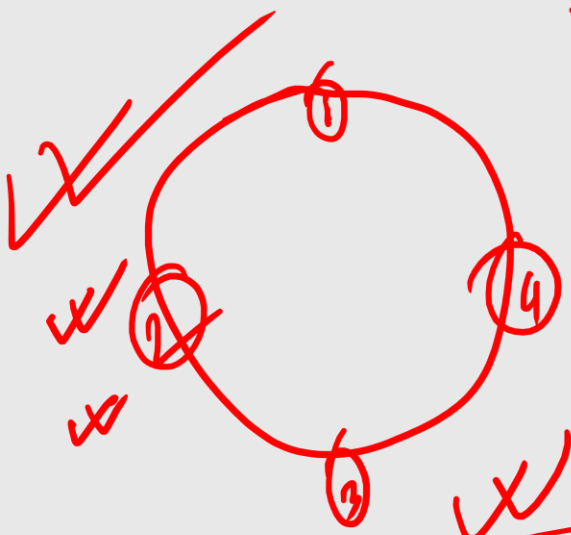
ABCD

n-1

ABCD

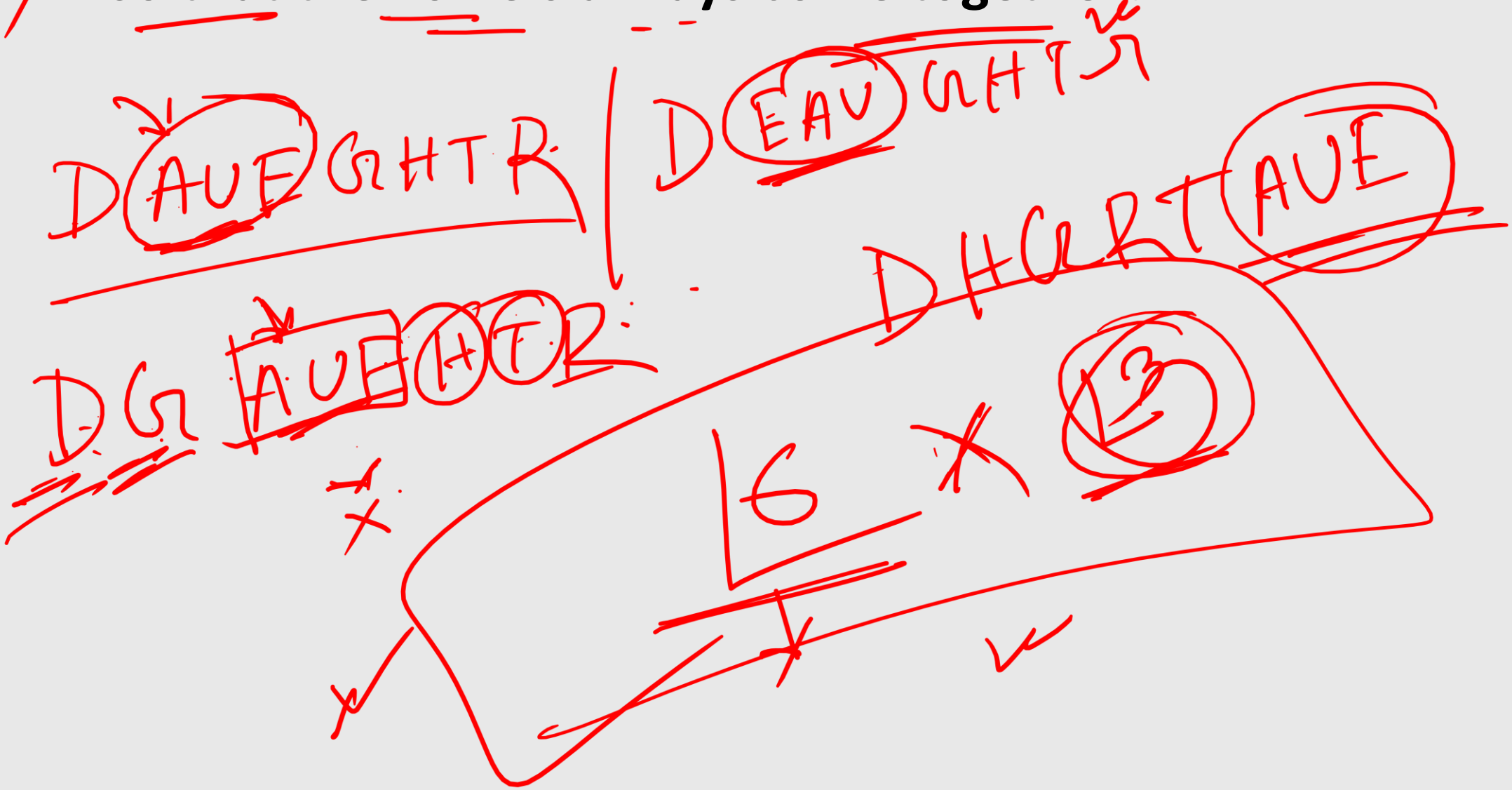
The number of ways that 8 beads of different colours be strung as a necklace is-

(4) $n = \frac{\lfloor n-1}{2}$ $n=8$ $\frac{\lfloor 8-1}{2}$ $\frac{\lfloor 7}{2}$ $\frac{2}{2}$

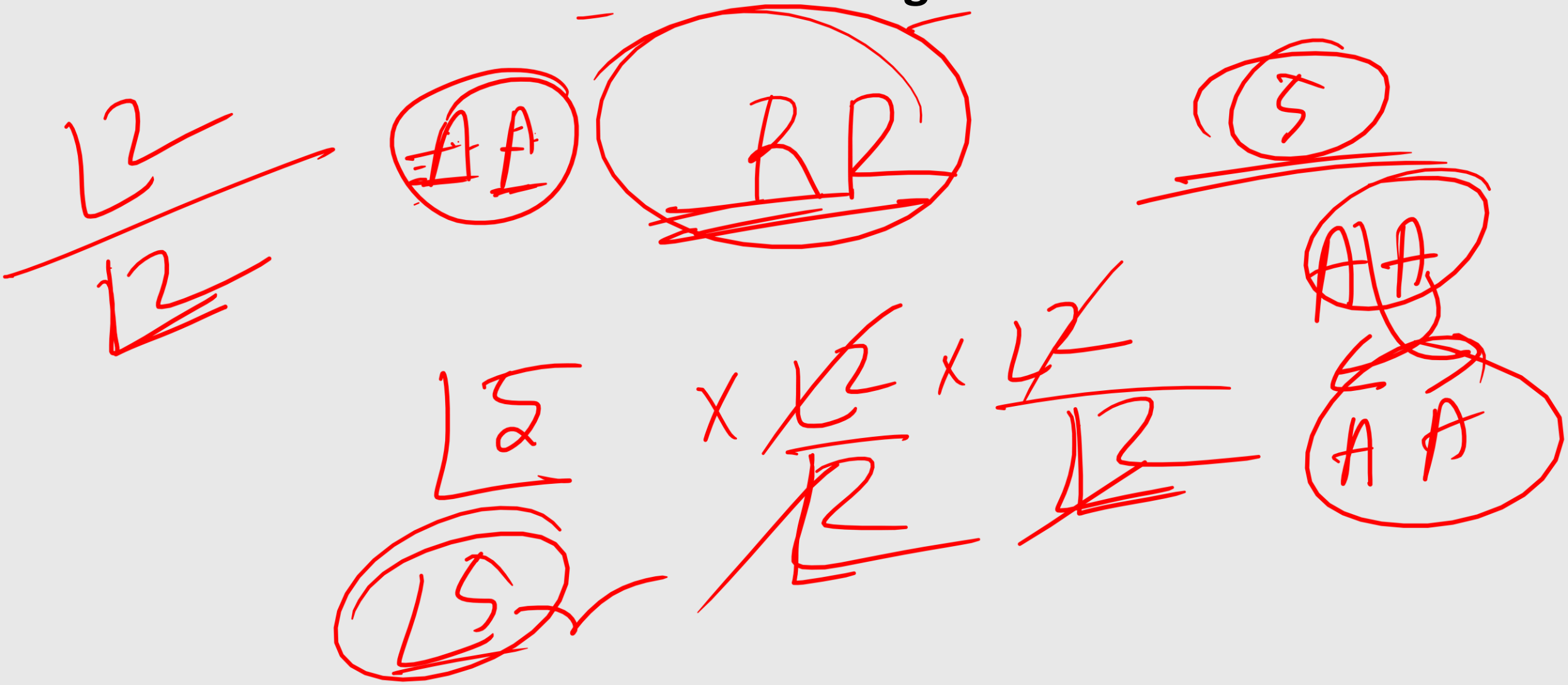


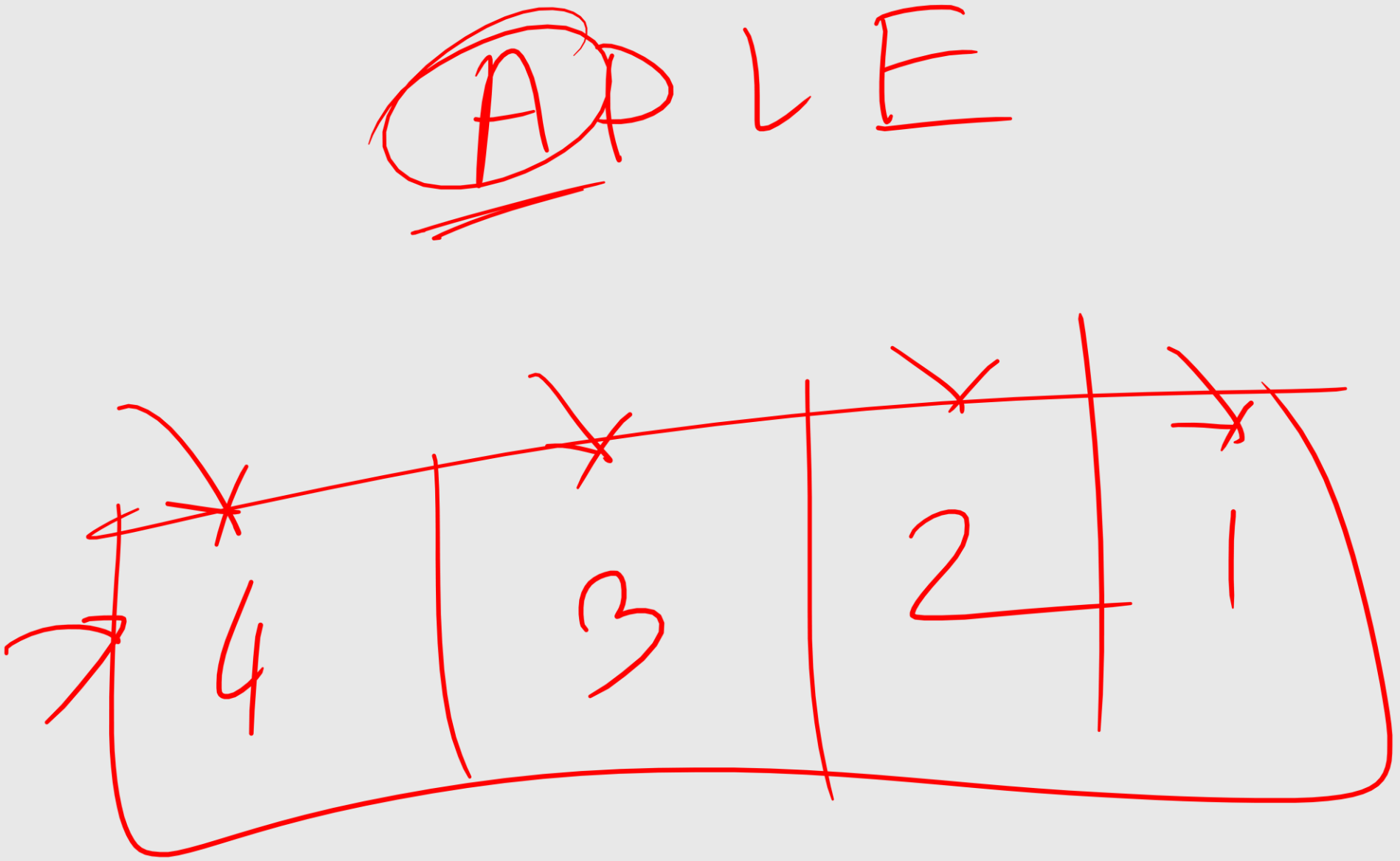
1234 1432 2520

How many words can be formed by using all letters of the word 'DAUGHTER' so that the vowels always come together?

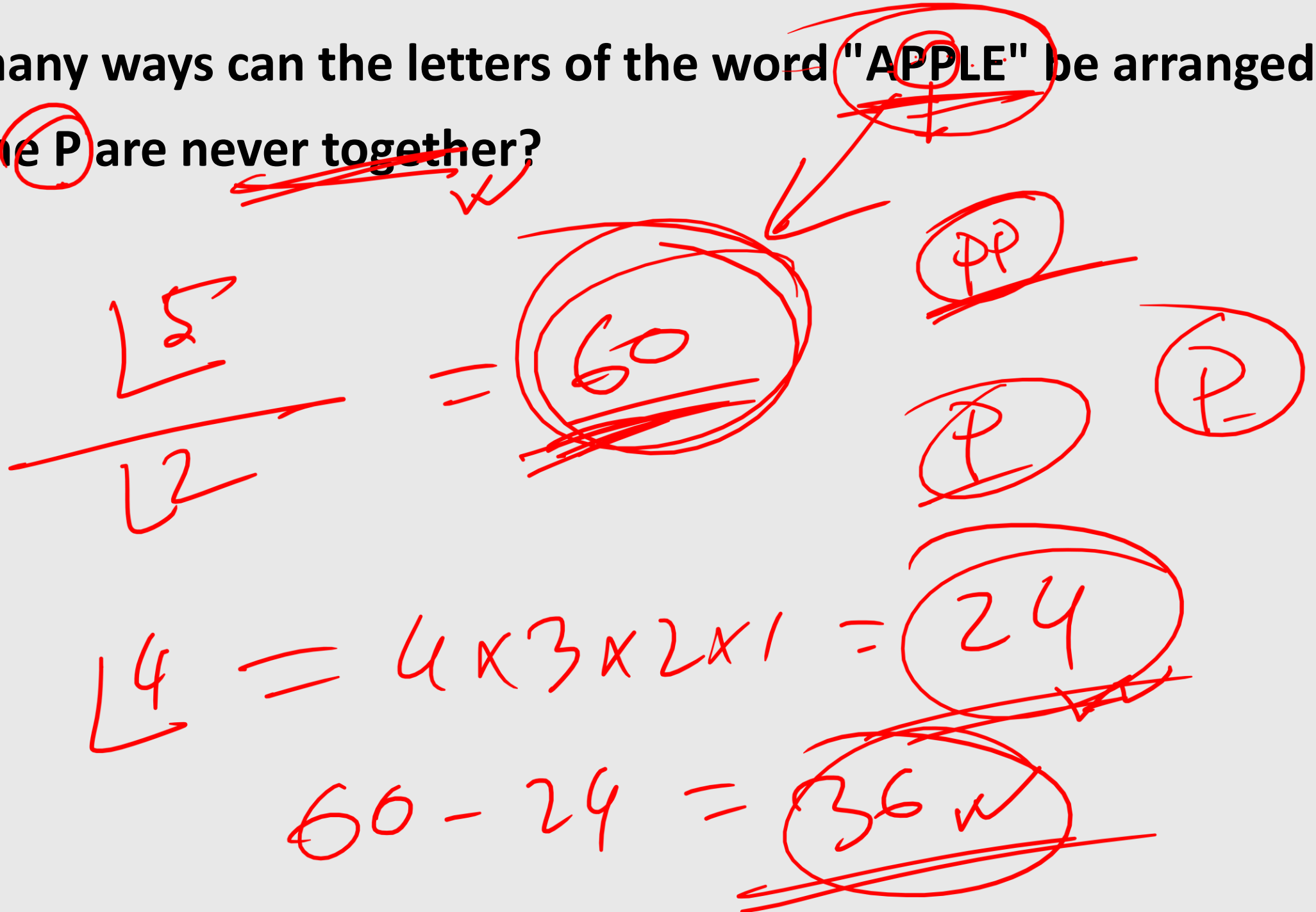


In how many ways can the letters of the word 'ARRANGE' be arranged in which the two R's and two A's come together?

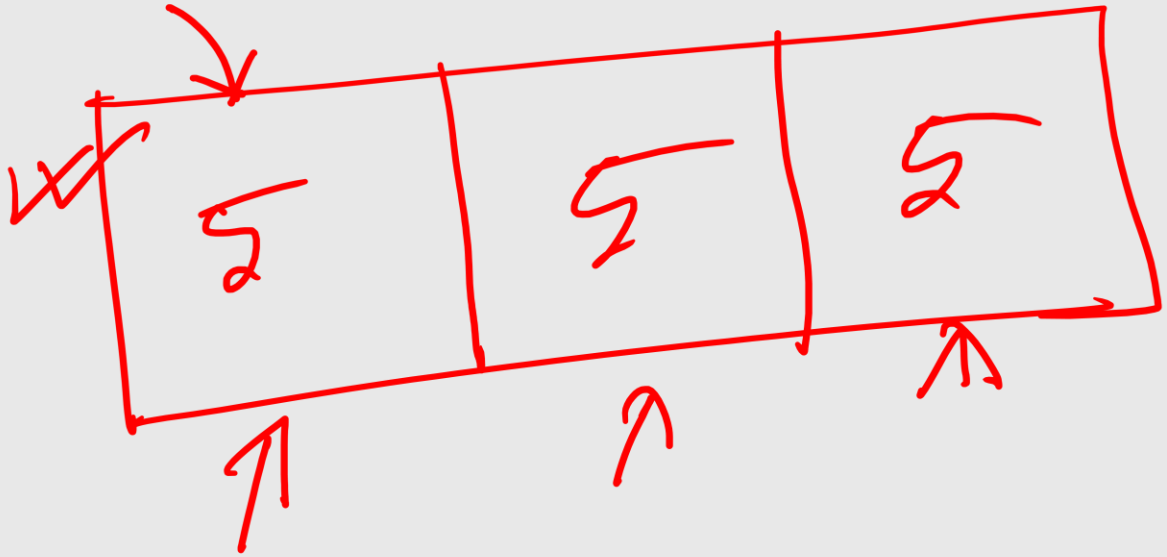



APLE
4
3
2
1

In how many ways can the letters of the word "APPLE" be arranged so that the P are never together?

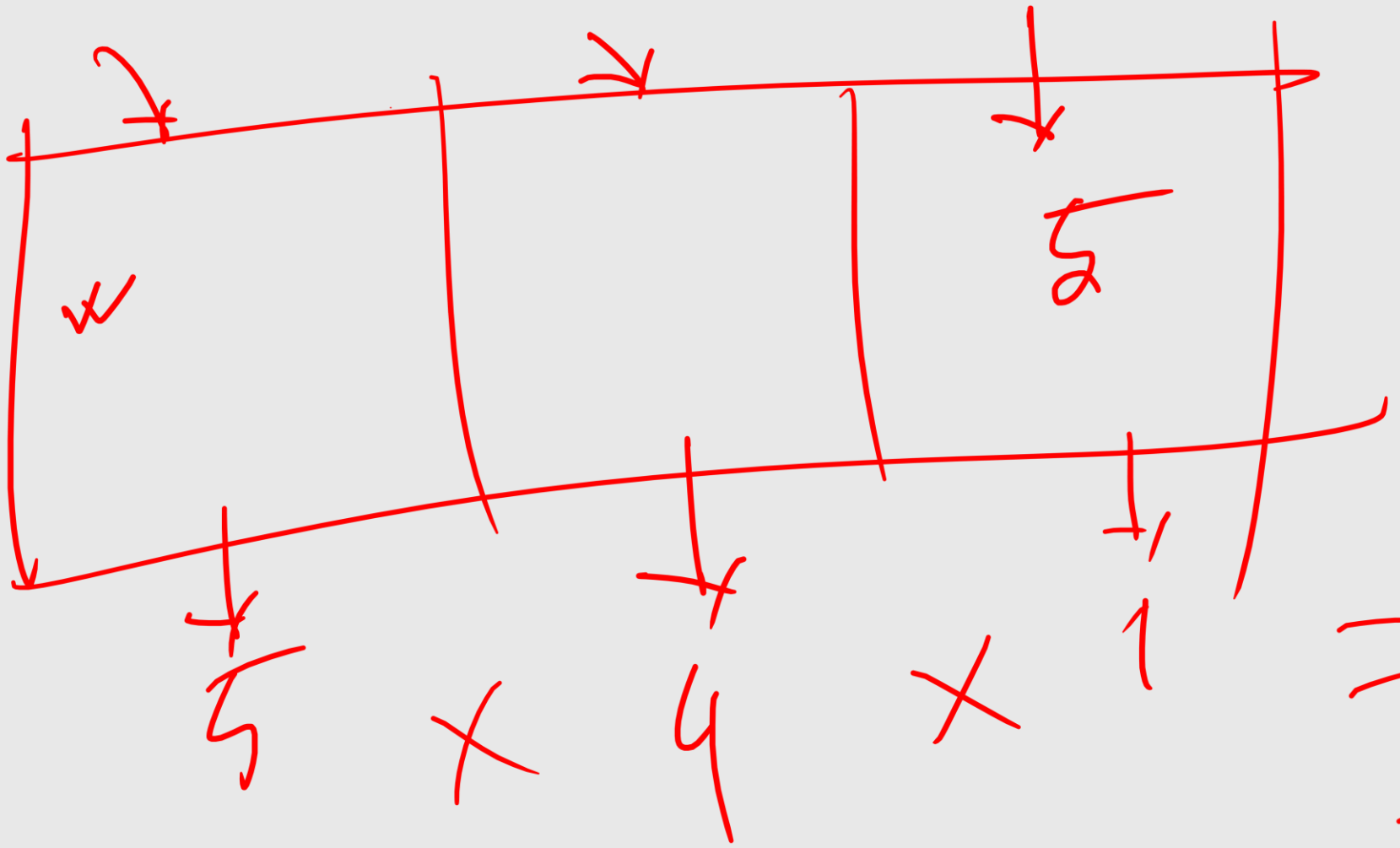


How many 3 digit number can be build by using 1, 2, 3, 4 and 5, if repetition allowed?



$5 \times 5 \times 5 = 125$

How many 3-digit numbers can be formed form the digits 2, 3, 5, 6, 7, and 9, which are divisible by 5 and none of the digits is repeated? *[Basic Bank (Cash)-14]*



Thank You